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THE
EARL OF MACCLESFIELD'S
S P E E C H

IN THE
HOUSE OF PEERS

On *Monday* the 18th Day of *March* 1750.

At the Second Reading of the Bill

For Regulating the Commencement of the Year, &c.

L O N D O N:
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THE following Speech was not intended to go any farther than the Walls of the House in which it was delivered ; but the pressing Instances of many Lords, for whom the Author entertains the greatest Honour and Esteem, have in a manner compelled him to make it more publick ; which the candid Reader will it is hoped consider in the Perusal of it.

THE
EARL OF MACCLESFIELD'S
S P E E C H
IN THE
House of Peers.

On *Monday* the 18th Day of *March* 1750.

My Lords,

THE principal View and Intention of the Bill, which has been just now read to your Lordships, is to introduce and establish one uniform Method of reckoning or computing Time, and of fixing the Dates of all Matters which may be transacted, not only among the Subjects of the Crown of *Great Britain*, but also betwixt them and the Inhabitants of much the greatest Part of *Europe*.

And for this Purpose, it is propos'd by this Bill; First, To regulate the Commencement of the Year and Secondly, To correct the Calendar, which at present is made use of, for reckoning and computing Time, throughout all the Countries and Places subject or belonging to the *British* Crown.

That,

That, in one Part of this united Kingdom, the legal Commencement of the Year should differ, by the Space of near Three Months, not only from the legal Commencement of the Year in another Part of the same Kingdom, but also from the general and common Usage throughout the Whole, is so glaring an Absurdity, and the Parent of so much Confusion and Disorder; that I am persuaded there is no Lord within this House, nor any one Person without-doors, who does not wish and desire, that it may be removed.

For which Reason I shall not trouble your Lordships with any thing farther, in Support of that Part of the Bill, which establishes one and the same Commencement of the Year throughout all the *British* Dominions; and in order that, at the same time, we may be conformable in this respect to the Usage of all the rest of *Europe*, directs, that the First Day of *January* shall be taken and deemed to be the First Day of the Year, in all succeeding Times.

The next Thing proposed by this Bill, is the Correction of the Calendar, and this in Two Respects; First, with regard to the Civil Year, by which the Times of our fixed Festivals, and the Dates of all our Transactions, are determined; and, Secondly, in relation to the Method which we make use of to find the Time of *Easter*, and of the moveable Feasts thereon depending: In both which Particulars, we differ from the Practice of the greatest Part of *Europe*. And

And although the Inconveniences, which arise from the First of these, are not so general and universal, as those which are caused by the different Commencements of the Year which are in Use within this Kingdom; yet are they not less sensibly felt by such as have Dealings or Correspondence of any kind with Foreign Countries; where the several Months are reckoned to begin eleven Days sooner than they do in this Kingdom, or in any of the Places subject to the Crown of *Great Britain*.

That is, the same Day, which, in each Month is with us the first, is called the twelfth Day of the Month throughout almost all the other Parts of *Europe*; and in like manner thro' all the other Days of the Month, we are just eleven Days behind them.

It must indeed be acknowledged, that the Dates according to one Calendar or Account may, without any great Difficulty, be reduced to those of the other.

But as it must still be a Matter of some Trouble, and the Loss of some Time, to make such Reductions, and that the Number of the same, where Dealings are large and Correspondence extensive, will be considerably increased: It will surely be well worth the while, intirely to remove an Inconvenience, from the which there may possibly arise, if the greatest Exactness be not constantly observed, more Mistakes
and

and Confusion than a little Time and Pains would be sufficient to rectify; and which might even sometimes occasion such real Losses, as could never again be retrieved.

And to these Inconveniences are exposed, all those who have any Intercourse with other Parts of *Europe*, and such as are any ways concerned in foreign Trade and Commerce; a Matter of so much Consequence and Benefit to this Nation, and upon which the Opulence and Strength of the same do so greatly depend.

These Considerations would alone sufficiently justify, the carrying a Bill of this Nature into a Law.

But it happens besides, that these Inconveniences, are only owing to our own Perseverance in a Practice which has long since been acknowledged to be erroneous, and, as such, been corrected in almost all the other Parts of *Europe*; and which is, by the Inhabitants of those Countries, but too justly objected to us as Matter of Reproach.

To explain and state, in a proper manner, this and another Particular in our Calendar and Computation of Time, and the Method of correcting them, provided by this Bill, will, I am sensible, oblige me to trespass longer upon your Lordships Time and Patience, than I could wish to do.

But

But as I think it would neither be reasonable in itself, nor consistent with the Dignity of this House, for me to desire your Lordships to give a Sanction to Corrections of Errors of so general a Concern, when neither those Corrections, nor the Errors themselves, have in any measure been explained to your Lordships: I chuse rather to trust to your Candour and Goodness, for the Pardon of my Prolixity; than to appear in any degree wanting in that Duty and Regard which I owe to this House, by forbearing to give your Lordships the best Account that I am able of these Matters.

And although it is now well known, that the Sun does not move, and that the Equinoxes and Solstices do not vary or change, or at most but extremely little: Yet, in Compliance with Custom and Usage, and that I may not be thought to affect Singularity, I shall not scruple to make use of the common Manner of speaking on these Subjects, and to mention the Motion of the Sun, and the Anticipation and Variation of the Equinoxes and Solstices, and of the Seasons which depend thereon, whensoever, in what I have to say, there shall be Occasion for me so to do.

We are told by the greatest Authority, that, besides many other Uses for which the Sun and Moon were originally intended, they were *to be for Seasons, and for Days and Years*: And accordingly all Nations have, to the best of their Skill, adapted their Civil Years to the apparent Motion of the Sun, or of the Moon, or of both those Luminaries

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jointly.

jointly. The first being called merely Solar Years ; the second merely Lunar, and the last Lunifolar Years.

The merely Solar Year was anciently made use of by the *Egyptians*, *Chaldeans*, and *Persians* ; afterwards by the *Romans* ; and from them, by the *Europeans* in general to this Time.

The merely Lunar Year, being of so variable and wandering a Nature, that its Beginning travels thro' all the Seasons in a little more than thirty-three Solar Years, has not been so much in Use as the other two : though it formerly prevailed among the *Arabians* and *Saracens*, as it does at present among all the *Mahometan* Nations.

The Lunifolar Year was followed by the ancient *Jews* and *Greeks*, and for some time by the *Romans* ; and is still made use of for determining the Times of the moveable Feasts, as well by the *Christians*, as by the modern *Jews*.

But neither the Solar nor the Lunifolar Years were of the same Form, in all the Nations that respectively used them ; for, in proportion to the Advancement which the Knowledge of Astronomy made among them, the Civil Year, whether Solar or Lunifolar, was brought to correspond more nearly with the true or Astronomical Solar Years : Of which there are two Kinds,

One of them is called the *Sidereal Year*; and is the Time that passes betwixt the Sun's leaving any fixed Star, and his Return to the same Star again:

The other, which is called the *Tropical Year*, and is about twenty Minutes * less than the *Sidereal Year*, is that Space of Time which the Sun, departing from either of the Equinoctial or Solstitial Points, takes up in performing the whole Circuit of the Ecliptic, before he returns to the same Point again: And, because the four Parts, into which the Equinoxes and Solstices divide the *Tropical Year*, form the four Seasons; this, and not the *Sidereal Year*, has generally been made use of, for regulating and correcting the Civil Years, as well *Lunisolar* as *Solar*.

The Year which *Numa* introduced among the *Romans*, was *Lunisolar*: But, either through the Ignorance or the Negligence of the Priests, who had the Care of these Matters, the Intercalations and Corrections, necessary for preserving the proper Correspondence between their *Lunisolar Year* and the *Tropical Year*, were either wholly omitted, or so very improperly applied, as to produce at last the greatest Disorder in the *Roman Calendar*; insomuch that it even came to appoint the Celebration of some of their Festivals, at Seasons of the Year intirely different from those whence the Festivals themselves de-

* 20'. 23". 33'''.

rived their Names, and on account of which they were originally instituted.

Julius Cæsar, to whom, as *Pontifex Maximus*, the chief Care of these Things belonged, resolved to correct this Absurdity; and to prevent, as far as he could, the like Error for the future.

And, after having restored all the Festivals to their proper Seasons, by the Advice of *Sofigenes*, an Astronomer of *Alexandria*, whom he had called to his Assistance, he caused the old Lunisolar Year of *Numa* to be intirely laid aside; and substituted, in the stead thereof, the *Egyptian* Solar Year of 365 Days, which he ordered to be made use of for the future; but not without a Correction.

For it being concluded, from the best Astronomical Observations then made, that the true Length of the Tropical Year was 365 Days, and six Hours, exceeding, by one fourth of a Day, the *Egyptian* Year; and it being impossible to take notice of that Excess in a Year contrived for common Use, which could admit no Part of Time less than an intire Day; he directed that one whole Day, being the Amount of that Excess in four Years, should be added in every fourth Year: And that this additional Day should be intercalated or inserted, immediately after the seventh of the *Calends* of *March*, which with us is the twenty-third Day of *February*: And since, by this means, two successive Days were each of them called *Sexto Calendas*, and, one of them was for Distinction-sake, called *Bissexto Calendas*; it is from thence that those
Years,

Years, in which this additional Day is intercalated, have obtained the Name of *Bissexile* Years.

It was then thought that this Form of the Solar Year was so perfect, that the Equinoxes and Solstices would for ever continue to happen upon the same nominal Days; and accordingly it came into Use throughout *Europe* in general; and is still so throughout all the *British* Dominions, being, from the Name of its Author, called the *Julian* Year or Account.

But Time shewed it not to be so perfect, as it was at first imagined to be: For at length it was found, that the Equinoxes and Solstices had anticipated, that is, happened earlier, by some Days, than they did in some former distant Years: And more accurate Observations of the Sun discovered, not only the Error which caused this Irregularity, but likewise how much that Error amounted to in every mean Year, taking one Year with another.

For it appeared, that the Tropical Year had been supposed longer than it truly was, by a little more than eleven Minutes*; which Error would amount, in four Years, to more than forty-four Minutes†; in about 130 Years §, to one intire Day; and in 400 *Julian* Years, to three Days and almost two Hours‡.

* 11'. 5". † 44'. 20". § 129.9 Years, or 129 Years,
337½ Days. ‡ 3 d. 1 h. 53'. 20".

This

This Error was, in the Year 1582, attempted to be remedied by Pope *Gregory* the XIIIth; and he succeeded very well in the Attempt.

The Pope set about this Work from a Desire, that the moveable Feast of *Easter* should always be observed, as nearly as might be, at the same times of the Year respectively, with those at which it had been kept for some Years after the General Council of *Nice*; which was holden in the Year of our Lord 325. and had prescribed a Rule for finding the proper Time of celebrating that Festival; of which more will be said hereafter.

This however could not be effected, without correcting the Civil Year in such a manner, that the Vernal Equinox should then, and in all future times likewise, fall upon, or very near to, the twenty-first Day of *March*; as it did at the time of that general Council, but had then anticipated by the Space of ten Days; and happened upon the eleventh, and not upon the twenty-first Day of *March*.

And for this Purpose, he not only caused Ten Days to be dropped in *October* 1582. but after having consulted with the Astronomers, in all the Universities professing the *Roman* Religion, he directed, that the same Rule of Intercalation should be observed in respect to complete Centuries of Years, with that which then was and still is in Use, with regard to single Years.

That

- That is, three successive hundredth Years; which, according to the *Julian* Account, would all have been *Bissexile* Years, were to be only common Years; but every fourth hundredth Year was to be, as it otherwise would have been, a *Bissexile* Year.

By this means three intercalary Days being omitted in every four hundred Years; the Difference between that Number of Civil and Astronomical Years, is not so much as two Hours *; and will not amount to 24 Hours, or one whole Day, in less than 5082 Years.

The Civil Year, thus corrected, has taken place in most Parts of *Europe*, many Years since; and is proposed by this Bill to be now received and established throughout all the Countries subject to the Crown of *Great Britain*. But because, in the Year 1700, an intercalary Day was added by us, and not by those who then made use of the Year so corrected, or the New Style; they are now Eleven Days before us in the Reckoning of Time: And therefore, if we would make our Reckoning agree with theirs, eleven Days must be dropped by us, at such time of the Year, as shall be thought to be most convenient and proper for it.

When the Solar Year, by which the Times of all our fixed Festivals, and Transactions of a Civil Nature, are determined, shall thus be rectified; another Cor-

* 1 h. 53'. 20".

rection, necessary to be made in our Calendar, is that of our Method of finding the Time of the moveable Feast of *Easter*; and of the Places where the Golden Numbers, which we make use of for that Purpose, stand in our Calendar.

The General Council of *Nice* was holden, as I mentioned before, in the Year of our Lord 325. for this Purpose, among others, that a Rule might be laid down for finding the right and proper Time of celebrating the Feast of *Easter*; concerning which many Disputes had arisen, and had been carried to the greatest Excess, between the Western and the Eastern Churches. And the Substance of what was agreed upon at that Council was this:

That the Feast of *Easter* should always be observed upon the first *Sunday* after that fourteenth Day of the Moon, by which they meant the Full Moon, which should happen upon or next after the Day of the Vernal Equinox. And since that Equinox then happened upon the twenty-first Day of *March*, and it was then thought would for ever continue to do so; it was declared, for the sake of Persons unacquainted with Astronomy, that the twenty-first Day of *March* should be considered as the Day of the Vernal Equinox.

And Astronomical Learning flourishing, at that time, more in *Egypt* than elsewhere; it was referred to the Bishop of *Alexandria*, to compute every Year, the Time of *Easter*; and to send early Notice of it to the Bishop of *Rome*; who was to com-

communicate it to the several Bishops of the Western Churches.

This last Particular gave a Superiority to the Bishop of *Alexandria*, which the Pride of the See of *Rome* could not very well bear. But the Ignorance of the Bishops of *Rome* and their Dependents, in these Matters, obliged them, though much against their Wills, to submit to it for some time.

At length, after they had made various Attempts for that Purpose, *Dionysius Exiguus*, a *Roman* Abbot, and the Inventor of that Period which is called by his Name, furnished them, in the Year of our Lord 527. with a Method of finding the first Day of the Moon, and consequently of the fourteenth, without Difficulty, by means of a Cycle of nineteen Lunifolar Years, which had been contrived 432 Years before *Christ*, by *Meton* an *Athenian* Astronomer; and is now known by the Name of the Golden Number or the Cycle of the Moon; and which *Dionysius* then adapted to the finding in every Year that fourteenth Day of the Moon, or Full Moon, upon which the Time of *Easter* depended.

For these nineteen Lunifolar Years, consisting of 235 Lunations, being thought to be exactly equal to nineteen Solar Years; the several Numbers of this Cycle were prefixed to those Days of the Month in the Calendar, on which the first Days of the Moon happened at that time, in the several Years to which those Numbers corresponded respectively, in the Cy-

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ele of nineteen Years; upon a firm Belief, that in all future Times the first Days of the Moon would, at the End of every nineteen Years or complete Cycle, happen upon the same Days to which the Numbers, corresponding to the several respective Years, were prefixed; and that when, in each Year, the several first Days of the Moon were found, it would be extremely easy to find, in any given Year of that Cycle, the fourteenth Day of the Moon which would happen upon or next after the twenty-first Day of *March*, and consequently the Day upon which *Easter* ought to be celebrated in that Year.

This Method of finding *Easter*, by means of the Golden Numbers thus placed in the Calendar, was followed for a considerable time by all the Western Churches; and continues still to be used in this Country.

But how perfect soever this Method was at first believed to be; Time, that great Discoverer of Truth and Falshood, has shewn it to be very erroneous; partly upon Account of the Anticipation of the Equinox, already spoken of; and partly because the nineteen Luni-solar Years, of which the Cycle is composed, are not exactly equal to, but about one Hour and twenty-eight Minutes * less than nineteen Solar Years; making the New Moons anticipate, or happen earlier than they did, by twenty-four Hours, or a whole Day, in about 311 † Years; whereby the Golden Numbers appear to be very improperly placed in our present Calendar. And although, in the Time

* 1 h. 28'. 3". 30'''. † 310.7 Years, or 310 Years 256½ Days.

of celebrating the Feast of *Easter*, we sometimes agree with the Intention of the Council of *Nice*, and the Practice of other Countries where this Error has been corrected; yet it oftener happens that we differ from both.

The first Cause of this Error will be removed by the preceding Clauses of this Bill; by means of which the Vernal Equinox will again happen upon, or very near to the twenty-first Day of *March*; as it did at the Time of the Council of *Nice*.

And the Correction of the latter is of so intricate a Nature, and requires so many things to be taken into Consideration, that a Person of much greater Abilities than I pretend to, would not be able, in a Discourse delivered *viva voce*, to state it in a manner that would be clear and intelligible to his Hearers.

I shall not therefore attempt to explain farther, either the Error, or the Correction of it; but shall content myself with acquainting your Lordships, that it is corrected in the Calendar, Tables, and Rules, annexed to this Bill; and that by their Means *Easter-day* may be found, so as to agree as nearly as may be with the Rule prescribed by the Council of *Nice*, and to correspond intirely with the Practice of foreign Countries; not only for the present, but in future times likewise: Sufficient Provision being therein made, for properly shifting the Places of the Golden Numbers in the Calendar, at those Periods of Time when it shall be necessary so to do.

And when, in the course of what still remains for me to say, I shall mention to your Lordships the Authority upon which those Tables and Rules do stand, I am persuaded, that you will not entertain the least Doubt of the sufficient Truth and Exactness of them.

When Pope *Gregory* reformed this Part of the Calendar, he intirely laid aside the Use of the Golden Numbers; and substituted thirty Sets of Epacts in their stead. But his Method is so complex, and, at the same time, so different from that of the Church of *England*, that it was thought better still to retain the Use of the Golden Numbers; which will be much less troublesome, and yet, by means of the aforesaid Calendar, Tables, and Rules, will give the Time of *Easter* as exactly as the Epacts will do.

The three last Clauses of the Bill are designed merely for the Protection of private Property, from the Injury which it might otherwise receive, by the proposed Change of the Style.

This could hardly have been effected any other way than by the Provisions made in this Bill; which directs, that all things of a more indifferent Nature shall be transacted on the nominal Days; but that all Matters, which may affect private Property, shall not be accelerated; but shall be transacted or take place upon the very same natural Days, as they would have been, or would have done, if this Change in the Style had not been made.

For

For had the Payments of Rents and other Sums of Money, and the Performance of other Acts, stipulated for by Contracts in being before the Change of the Style shall take place, been in general accelerated and brought forward with the nominal Days; so great a Variety of Discounts, Abatements, and Allowances, would necessarily have been established by the Bill, as might have been attended with more Difficulties, and greater Inconveniencies, than those who have not thoroughly considered this Matter, may be aware of.

And if any one particular Case should be excepted out of the three last Clauses, or any of them; there is too much Reason to fear, that it would be productive of so many other Exceptions, as might greatly frustrate the good Intentions of the Bill.

And it is no small Justification of the last general Proviso, that it appears by authentic Copies and Extracts of Edicts and Placards, which the noble Lord, who brought in this Bill, procured from abroad, that the same Method was pursued, in this respect, when *France, Brabant, Holland, and Zealand*, laid aside the Old, and received the New Style.

I have now gone through the several Particulars of the Bill; and though I have done it with as much Brevity, as the Nature of the Matters, which I have spoken of, would permit, I am sensible that I have already trespassed too long upon your Lordships Patience; and shall therefore hasten to a Conclusion. But yet, as some Parts of the Bill, and particularly the Tables, and those Rules concerning *Easter*, which
are

are new, stand merely upon Authority; and cannot, as I have observed before, be explained minutely to your Lordships in this Place; I must beg your Permission to say a very few Words in relation to that Matter.

I believe I need not tell your Lordships, that the first Design of the Bill was formed by the noble Earl who presented it to the House; and whose Sagacity to discern, does not exceed his Inclination to redress, any Inconveniences which his Fellow-Subjects may labour under.

This Bill was, under his Lordship's Directions, drawn, and most of the Tables prepared, by Mr. *Davall*, a Barrister of the *Middle-Temple*, whose Skill in Astronomy, as well as in his Profession, rendered him extremely capable of accurately performing that Work; which was likewise carefully examined, and approved of, by two Gentlemen, whose Learning and Abilities are so well known, that nothing which I can say, can add to their Characters; I mean Mr. *Folkes*, President of the *Royal Society*; and Dr. *Bradley* his Majesty's Astronomer at *Greenwich*; the latter of whom did himself compose the three general Tables, which your Lordships find toward the End of the printed Copy.

Upon this Authority do the new Tables and Rules stand; and as to the Bill it self, no Endeavours have been wanting to make it as complete, and as free from Objections of all kinds, as possible.

But if, after all, any Defects or Imperfections, should still remain in it; I doubt not but that all of
them

them will be discovered, and the one be supplied, and the other be removed, either in the Committee of this, or the other House of Parliament, if the Bill shall proceed so far.

And since I am clearly of Opinion, that the general Principle of it is right, and well founded, I humbly move your Lordships, That this Bill be committed.

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